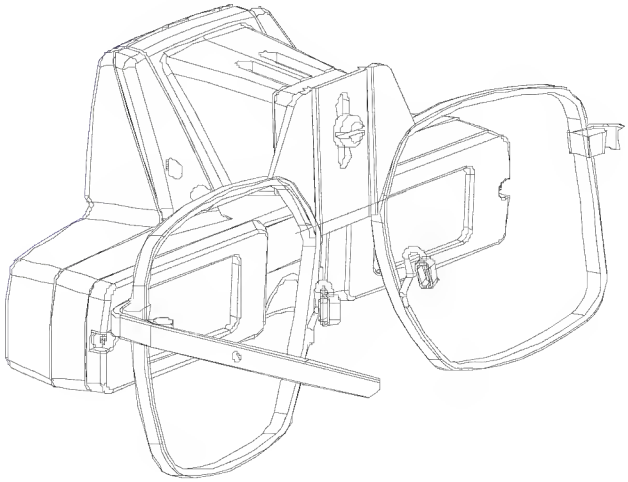
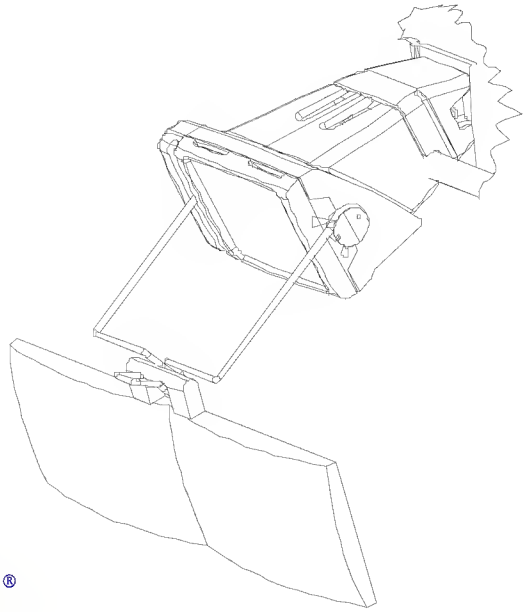
Headlight Menu
Operation Manual

LumiView™
Service Document
Models 20520S, 20520H, 20500S, & 20500H





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Revision Information

Rev.	Description	ECN#	Date	Initials
A	New Release	5-34841	2/28/97	M Dahlin
B	Update Per ECN	5-35406	9/3/97	Craig Mullin
C	Update Per ECN	5-37679	4/23/98	Colin Wolf

Contents

General Information 5

Product Verification 5

Tools: 5

Troubleshooting 6

Appendix A (Illustrations) 7

Spectacle Mount Flat Surface Magnifier 20521S 8

Headband Mount Flat Surface Magnifier 20521H 9

Spectacle Mounted Binocular Otoscope 20501S 10

Headband Mounted Binocular Otoscope 20501H 11

205035-501 Headband Assembly 12

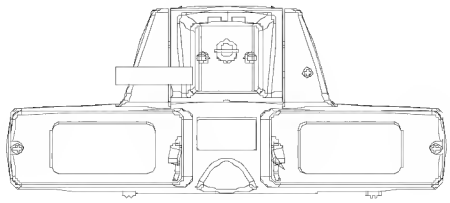
205101-501 Headband Swing Arm Sub Assembly 12

Reference Operators Manual #205070 when using this document

General Information

Note: The Binocular Flip Up Axis is factory set for a specific focus. Any disassembly could easily alter this focus. Do NOT disassemble this part. Disassembly or repair of this part can lead to a misalignment of the pre-set focus, thus altering the effectiveness of the product. The part must be replaced if found to be damaged or defective.

Binocular Otoscope



Product Verification

1. Verify proper output voltage of battery charger and/or power source.
   a. The battery charger is specified to supply 240mA (±27mA) of current at 5.3Vdc(±0.5V) across a 22Ω, 1.5W resistive load. To verify that it is functioning properly, assure that the charger maintains a positive potential dc output voltage of >3.6Vdc @ 240mA while connected to the battery pack for charging (or across a 22Ω, 1.5W resistive load). Note that the output voltage will float when not under an adequate load condition.

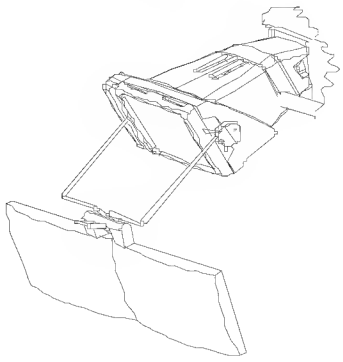
2. Verify battery voltage under load using a known good lamp or equivalent resistive load. Assure battery is adequately charged before returning to customer. Replace as necessary.

3. Verify adequate function of IPD and medial binocular vision.
   a. Verify proper interpupillary distance (IPD) control by adjusting the controls as stated in the users manual. It may also be necessary to adjust the vertical height of the binocu lar flip up axis. If the IPD controls cannot be set after several attempts, replace the binocular flip up axis.

4. Verify proper switch and lamp functions.

5. Inspect equipment visually for damage and/or stress. Replace or recommend replacement of defective or damaged components as necessary.

Flat Surface Magnifier



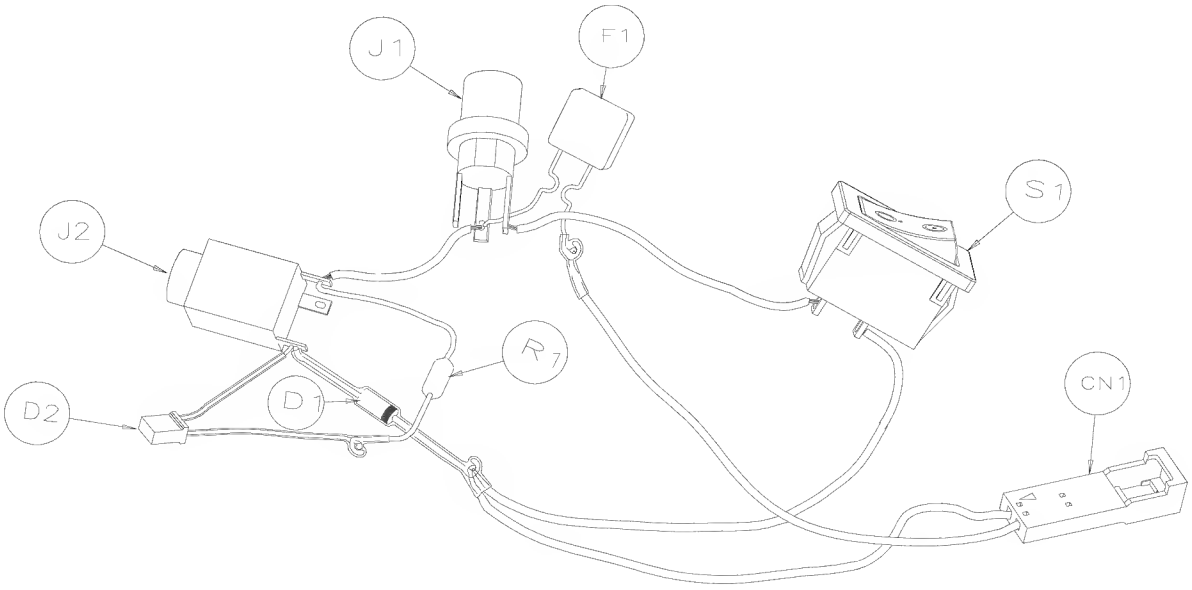
Tools:
T5 Torx Driver.
Volt/Ohm Meter.
#2 Phillips Screw Driver.
#2 Flat Screw Driver.
Equivalent Product Power Source and Battery Charger.
Soldering Iron.

Troubleshooting

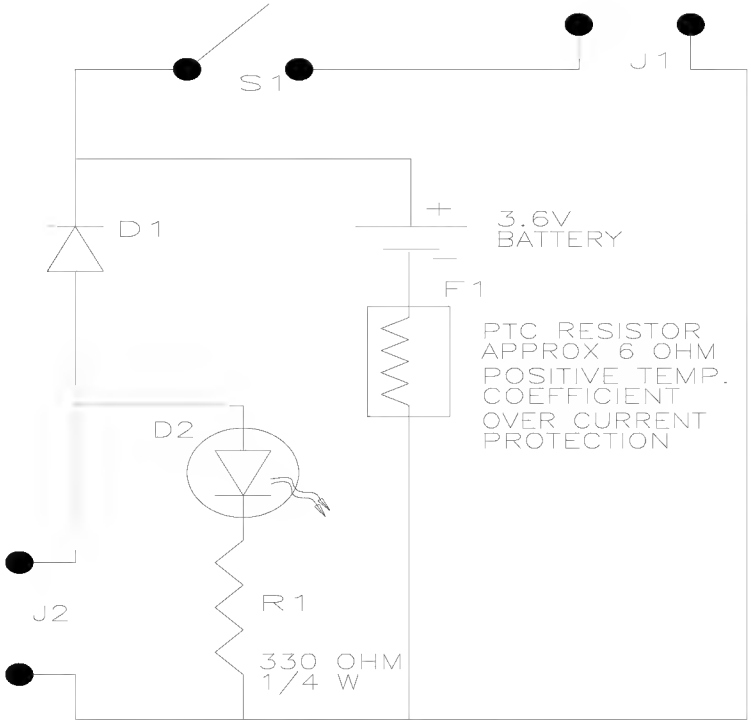
Symptom	Possible Cause	Procedure
Will not illuminate:	Defective Power Source	Verify 3.6V ±0.3V output (under load) or proper function using a known good light source, replace as necessary.
	Defective Battery Pack Component (Wire harness assembly)	Verify and replace wire harness assembly as necessary.
	Dead or defective battery. **Note that the length of charge and life of the battery can vary depending on the use and recharge rate. Recommendation to replace may be necessary.**	Verify 3.6V ±0.3V output under load (using a known good lamp or equivalent resistive load) after adequate recharge is performed. Replace as necessary.
	Failed lamp.	Verify and replace as necessary.
	Defective or misaligned cable & connector assy.	Verify, realign (within lamp housing), or replace as necessary.
	Misaligned or defective lamp contact.	Verify, realign, or replace as necessary.
Portable power source will not charge (Charge LED may or may not be lit when battery charger is engaged)	Defective battery charger.	Verify positive potential voltage (>3.6Vdc @ 240mA) across the battery or a 22Ω, 1.5W resistive load when the charger is properly hooked up. Replace charger as necessary.
	Defective Battery Pack Component (Wire harness assembly).	Verify positive potential voltage (>3.6Vdc @ 240mA) across the battery or a 22Ω, 1.5W resistive load when the charger is properly hooked up.
	Defective battery.	Replace battery.
Illumination spot does not converge with optical view.	Inadequate vertical position of optical section.	While focusing on an object at a normal working distance, adjust the vertical height of the optical section (vertical adjust screw), and the position of the nose bridge.
Unable to adequately center interpupillary distance (IPD).	Inadequate vertical height adjustment of optical section.	Adjust vertical position to a proper or more comfortable setting, and reset IPD controls.
Unable to adequately center interpupillary distance (IPD), product rattles when shaken. A physical defect has occured such as a loose internal mirror.	Misaligned or damaged internal assembly.	Consult factory, return; Replace Binocular Flip Up Axis.
Interpupillary Distance Controls (IPD) slide poorly or excessively.	Damaged internal assembly.	Return to factory; Replace Binocular Flip Up Axis.
	IPD controls worn or defective.	Return to factory; Replace Binocular Flip Up Axis.

Appendix A

Illustrations



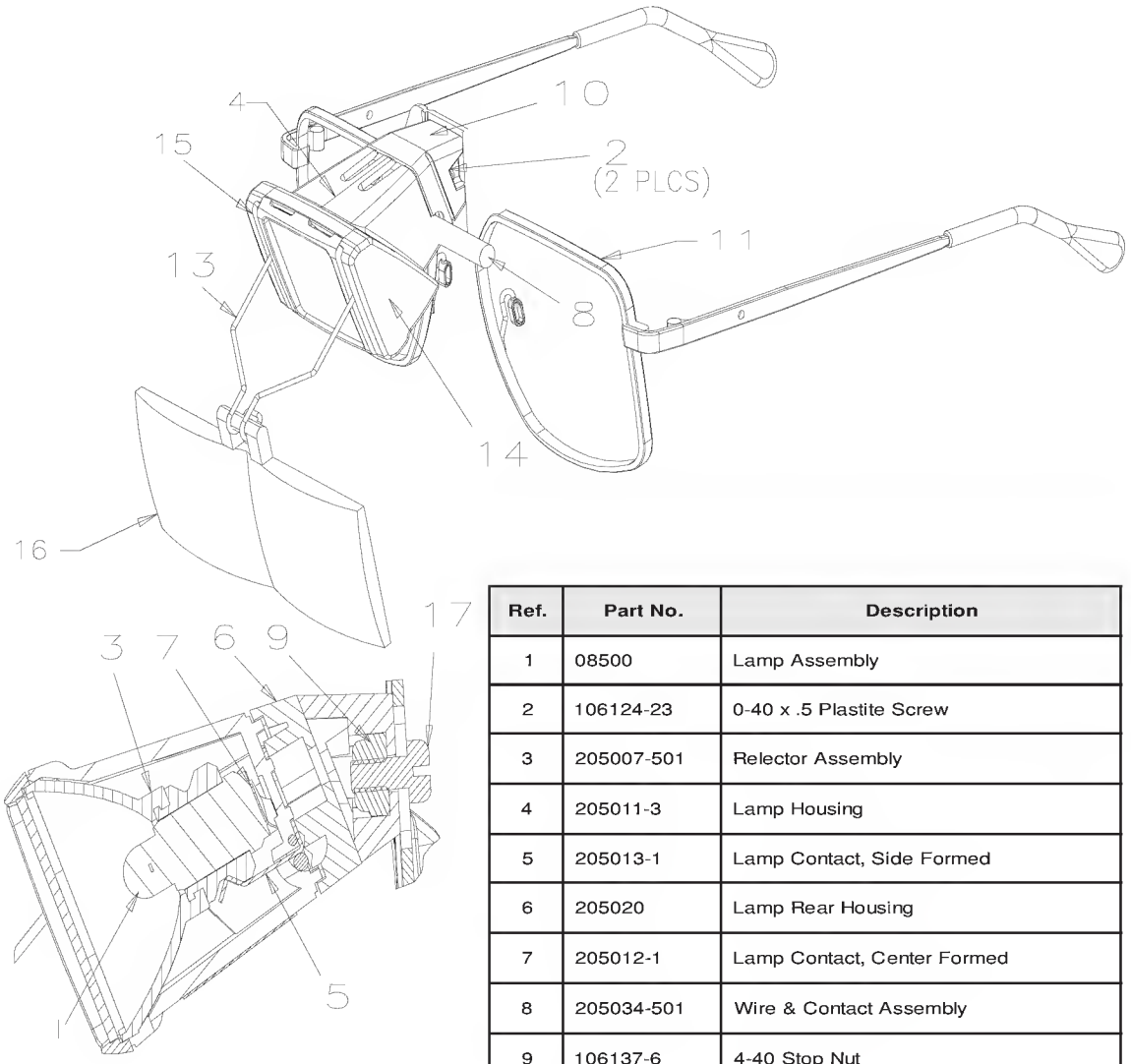
205044-502 Wire Harness Assembly
Reference Drawing #205044



205044-502, Portable Power Source
Wire Harness ASM Equivalent Circuit

Spectacle Mount Flat Surface Magnifier 20521S

Introduced September, 1996

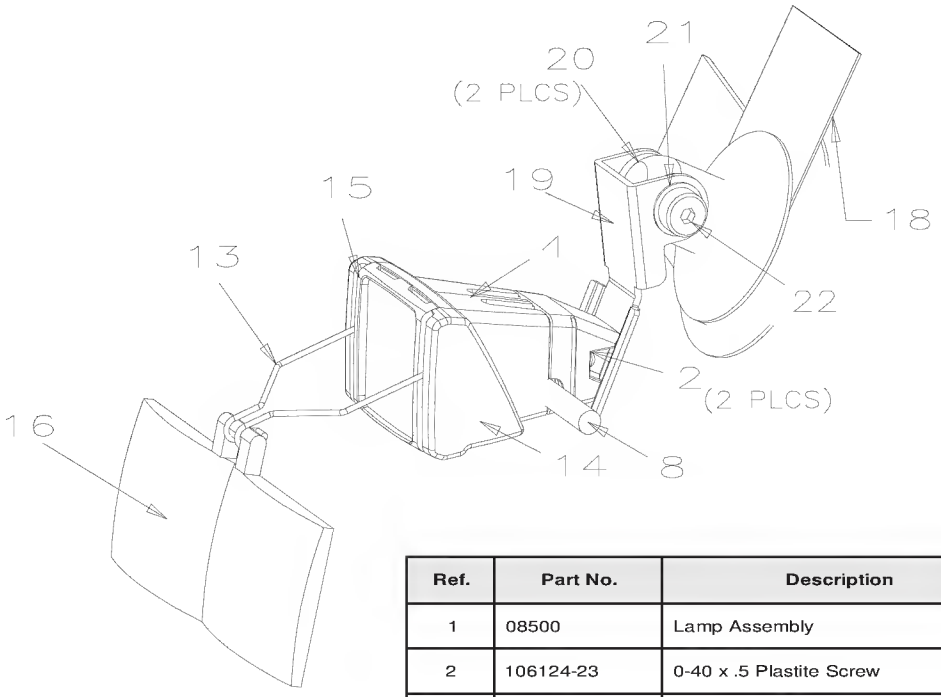


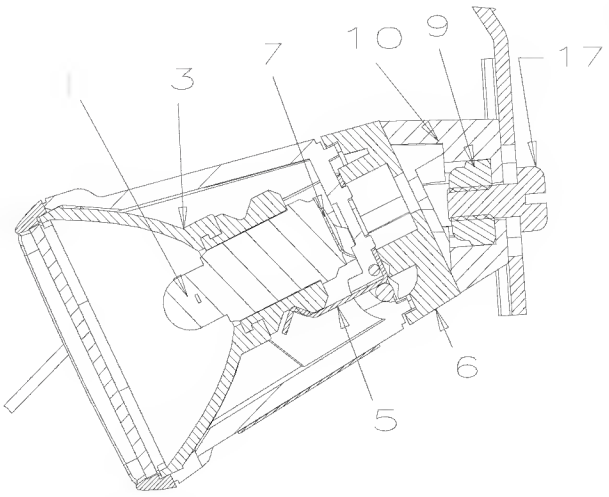
Ref.	Part No.	Description
1	08500	Lamp Assembly
2	106124-23	0-40 x .5 Plastite Screw
3	205007-501	Relector Assembly
4	205011-3	Lamp Housing
5	205013-1	Lamp Contact, Side Formed
6	205020	Lamp Rear Housing
7	205012-1	Lamp Contact, Center Formed
8	205034-501	Wire & Contact Assembly
9	106137-6	4-40 Stop Nut
10	205053	Wedge
11	205039-502	Spec Frame Assembly
-	205202-501	Flat Surface Illum Sub Assembly
13	205050-1	Wire Bale, Finished
14	205301	Left End Cap
15	205302	Right End Cap
16	205201	Mag Lens 3 Diopter
17	106100-47	4-40 x .25 Screw
18	205008	Spectacle Screw

Reference Drawing #205082, Repair BOM #20521S REPAIR

Headband Mount Flat Surface Magnifier 20521H

Introduced September, 1996



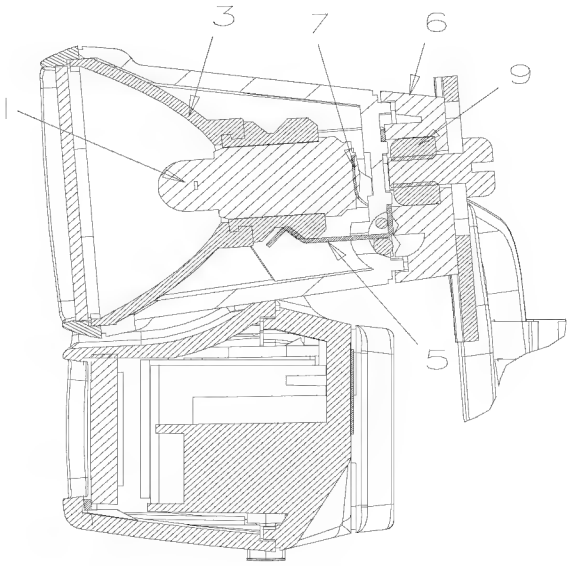


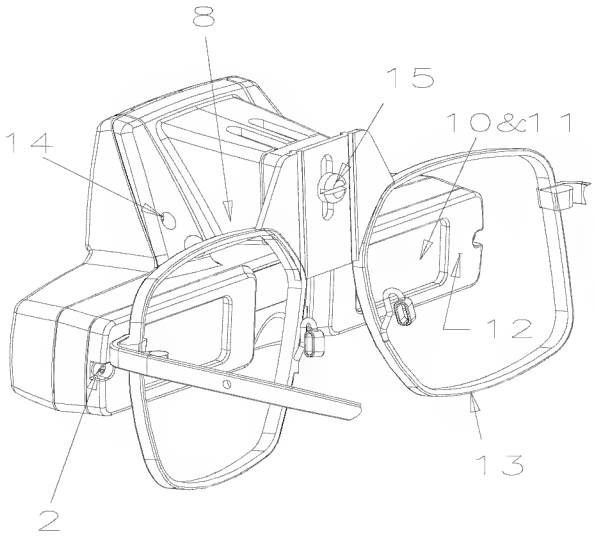
Ref.	Part No.	Description
1	08500	Lamp Assembly
2	106124-23	0-40 x .5 Plastite Screw
3	205007-501	Reflector Assembly
4	205011-3	Lamp Housing
5	205013-1	Lamp Contact, Side, Formed
6	205020	Lamp Rear Housing
7	205012-1	Lamp Contact, Formed
8	205061-501	Cable & Connector Assembly
9	106137-6	4-40 Stop Nut
10	205053	Wedge
-	205101-501	HB Swing Arm
13	205050-1	Wire Bale Finished
14	205301	Left End Cap
15	205302	Right End Cap
16	205201	Mag Lens 3 Diopter
17	106100-47	4-40 x .25 Screw
18	460167-505	Headband Assembly
19	205051	Swing Arm
20	205303	Spacer
21	106142-8	Washer, Bellville
22	205103	Shoulder Screw
-	205202-501	FS Illum Sub Assembly

Reference Drawing #205083, Repair BOM #20521H REPAIR

Spectacle Mounted Binocular Otoscope 20501S

Introduced September, 1996





Ref.	Part No.	Description
1	08500	Lamp Assembly
2	106124-23	0-40 x .5 Plastite Screw
3	205007-501	Reflector Assembly
-	117044	0-40 Plastite Screw
5	205013-1	Lamp Contact, Side, Formed
6	205020	Lamp Rear Housing
7	205012-1	Lamp Contact, Center, Formed
8	205034-501	Wire & Contact Assembly
9	106137-6	4-40 Stop Nut
10	205029	DR's Side Window
11	205030	Window Seal
12	205037	Retainer Window
13	205039-502	Spectacle Frame Assembly
14	106124-22	0-40 x .38 Plastite Screw
15	106100-47	4-40 x .25 Screw
-	205022-501	Binocular Flip Up Sub Assembly
16	205008	Spectacle Screw

Reference Drawing #205080, Repair BOM #20501S REPAIR

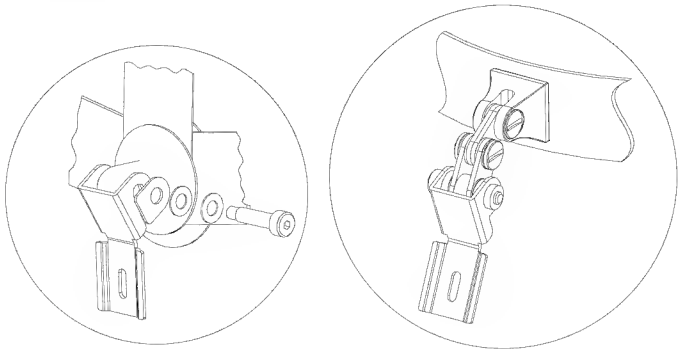
Headband Mounted Binocular Otoscope 20501H

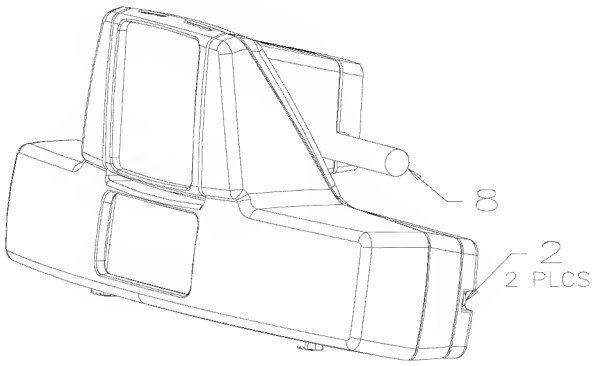
Inroduced September, 1996

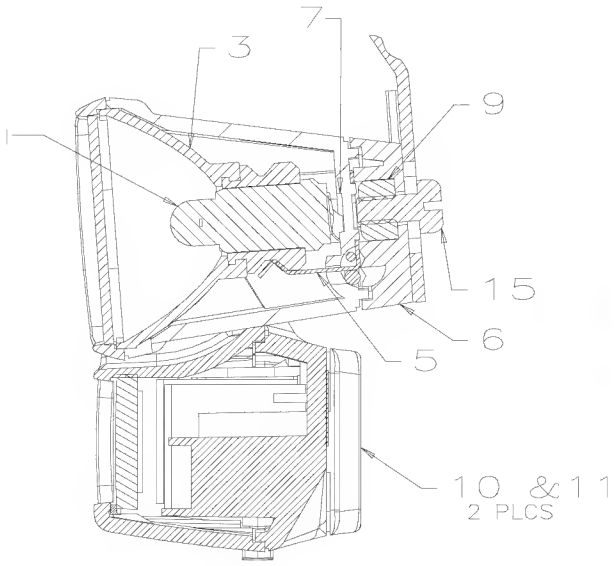
Sheet 1 of 2 (See Sheet 2 of 2 for Headband Assembly Parts)

(13) Introduced September, 1996
Obsolete May, 1998

(13) Introduced May, 1998





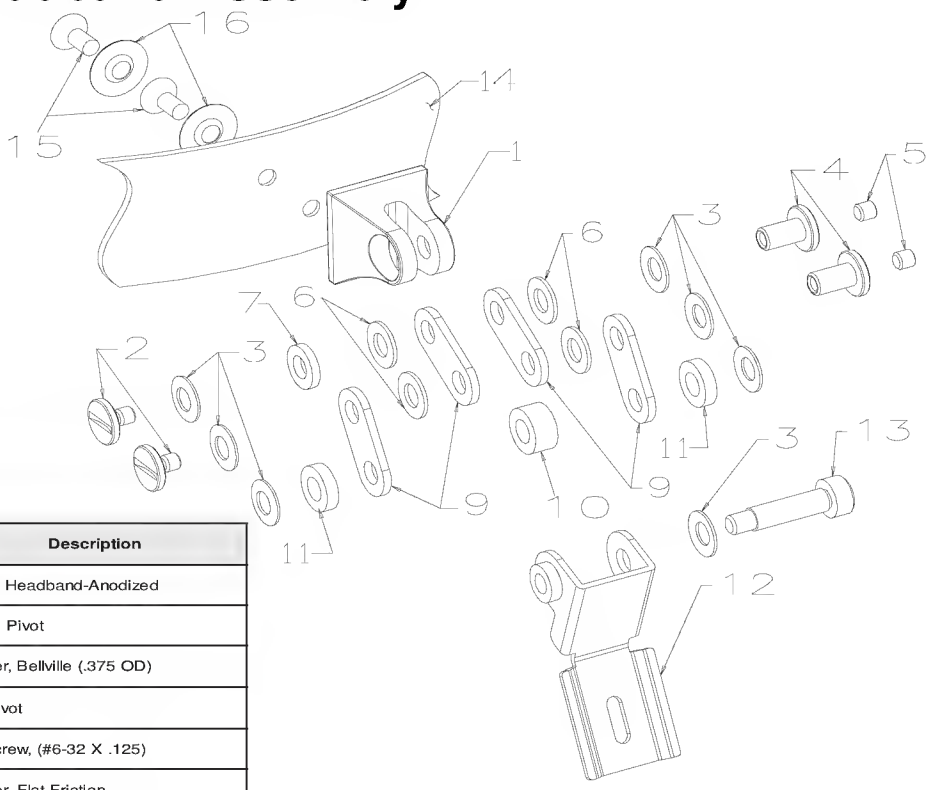


Ref.	Part No.	Description
1	08500	Lamp Assembly
2	106124-23	0-40 x .5 Plastite Screw
3	205007-501	Reflector Assembly
-	117044	0-40 Plastite Screw
5	205013-1	Lamp Contact, Side, Formed
6	205020	Lamp Rear Housing
7	205012-1	Lamp Contact, Center, Formed
8	205061-501	Cable & Connector Assembly
9	106137-6	4-40 Stop Nut
10	205029	DR's Side Window
11	205037	Retainer Window
13	205101-501	Headband Swing Arm Sub Assembly **(Obsolete May, 1998)**
13	205035-501	Headband Assembly **(Introduced May, 1998)**
-	106124-22	0-40 x .38 Plastite Screw
15	106100-47	4-40 x .25 Screw
-	205062	Label

Reference Figure 205081, Repair BOM 20501H REPAIR

205035-501 Headband Assembly

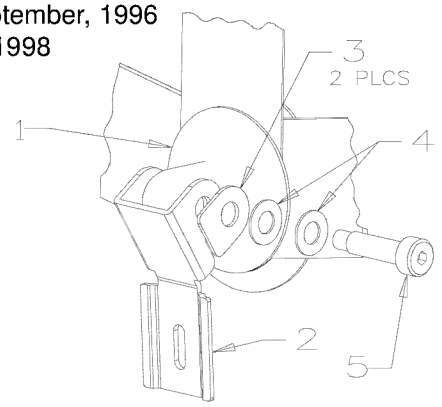
Introduced May, 1998



Ref.	Part No.	Qty	Description
1	495573-4	1	Mount, Headband-Anodized
2	495574	2	Screw, Pivot
3	106142-8	7	Washer, Bellville (.375 OD)
4	495575	2	Nut, Pivot
5	106113-17	2	Set Screw, (#6-32 X .125)
6	106103-32	4	Washer, Flat Friction
7	495577	1	Spacer, Headband Mount
9	495571-3	4	Linkage, Short-Anodized
10	106103-51	1	Spacer (ID .195, OD .375, Thk .185)
11	106103-50	2	Spacer (ID .195, OD .375, Thk .095)
12	205051	1	Swing Arm
13	205303	1	Shoulder Screw
14	4955597-504	1	Hd Bd A/O OH Strap
15	106102-25	2	Phps, (#6-32 X .312)
16	495594	2	Washer, Counter Sink

205101-501 Headband Swing Arm Sub Assembly

Introduced September, 1996
Obsolete May, 1998



Ref.	Part No.	Description
1	460167-505	Headband Assembly
2	205051	Swing Arm
3	205303	Spacer
4	106142-8	Washer, Bellville
5	205103	Shoulder Screw

Sheet 2 of 2, Headband Assembly Parts